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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/987,020	11/13/2001	Thomas Maier	006031.00009	6596

22907 7590 10/21/2004

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WASHINGTON, DC 20001

EXAMINER

LAROSE, COLIN M

ART UNIT	PAPER NUMBER
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2623

DATE MAILED: 10/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/987,020	Applicant(s) MAIER, THOMAS	
	Examiner Colin M. LaRose	Art Unit 2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

1. The drawings are objected to because FIG. 1c is missing its label. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claims 1-20 are objected to because of the following informalities: in claim 1, "(4)" should be removed. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-20 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,748,342 by Usami.

Regarding claim 1, Usami discloses a method of adapting image information to the perceptive capacity of the human eye, as well as to the capabilities of a printer, having the following steps:

displaying lightness values and colorimetric values or chromaticity steps from an original image as a group of points in an initial color space (figure 20: “Original” is a display of the group of points of an original image in an initial color space, RGB);

transferring the group of points into a physiologically substantially equal-spaced perceived color space while maintaining the geometry of the group of points within the limits of an output color space projected into the perceived color space (figure 6: at S4, the RGB values of the original image are transferred to $L^*a^*b^*$ color space, which is an “equal-spaced perceived color space”; then, color space compression is carried out at S5, wherein the geometry of the group of points in the $L^*a^*b^*$ color space is maintained within the limits of an output color space (e.g. RGB for a printer) projected into the perceived color space $L^*a^*b^* \rightarrow$ as shown in figures 2A and 2B, the gamut of a printer 22 is smaller than that of a monitor 21, so the points outside the printer’s gamut must be compressed in order to print accurate colors; in compressing the

Art Unit: 2623

outlier points of the $L^*a^*b^*$ image, the relative geometry of the original group of points is maintained to the extent that is possible in order to convert colors of the input image into colors of the output image that are similar in appearance (see column 4, lines 7-23))

transforming the group of points from the perceived color space into the output color space by using the transformation equations existing between the perceived color space and the output color space (figure 6: at S6, the $L^*a^*b^*$ values are transferred to RGB values using the standard transformation equations);

displaying the image with lightness values and colorimetric values or chromaticity steps in accordance with the points contained in the output color space (figure 20: two “preview” images, which were formed via the gamut-compression process, are displayed in the output color space RGB).

Regarding claim 2, Usami discloses that the perceived color space is a CIE- $L^*a^*b^*$ or a CIE-LUV color space (Usami’s perceived color space is $L^*a^*b^*$ -- see figure 6).

Regarding claims 3 and 4, Usami discloses that the group of points in the perceived space within the limits of the output color space projected into the perceived color space is subjected to a similarity projection (figures 2A and 2B: the image points outside the printer’s gamut 22 are projected onto the outer limits of the printer’s gamut so that they are substantially similar in appearance or exhibit minimal change in appearance).

Regarding claims 5 and 6, Usami discloses the group of points in the perceived color space is expanded as far as the limits of the output color space projected into the perceived color space (figure 2A and 2B: the outlier points (i.e. the points outside the printer’s gamut 22) in the

Art Unit: 2623

L*a*b* space, after color space compression, have been expanded to the limits of the printer's gamut – and after conversion to RGB, the points represent the outer limits of the printer gamut in the output color space RGB).

Regarding claims 7-10, Usami discloses the position and/or the orientation of the group of points in the perceived color space is changed (see figures 2A, 2B, 4, and 8: the position of the outlier points of the image, when represented in L*a*b* color space, are changed to conform to the gamut of the printer).

Regarding claims 11-20, Usami discloses that, in the event of a linear group of points, these are projected onto another line while maintaining the relative color distances between individual image points in the perceived space (figure 4B shows that, in the color space compression process, the points on the color plane outside the printer's gamut 22 are moved inward towards the origin so that they then lie on the outer edge of the printer's gamut; this ensures that the groups of outlier points remain substantially equally spaced when changed to coincide with the printer's gamut).

Conclusion

5. Prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 6,023,527 by Narahara discloses a color conversion system similar to that of Usami.

Art Unit: 2623


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Colin M. LaRose whose telephone number is (703) 306-3489. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au, can be reached on (703) 308-6604. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2600 Customer Service Office whose telephone number is (703) 306-0377.

CML

Group Art Unit 2623

17 October 2004



VIKKRAM BALI
PRIMARY EXAMINER